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ON HARMFUL ALGAE

FROM ECOSYSTEMS TO SOCIO-ECOSYSTEMS

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ABSTRACT BOOK


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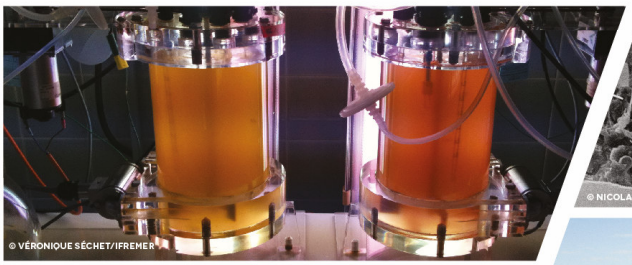
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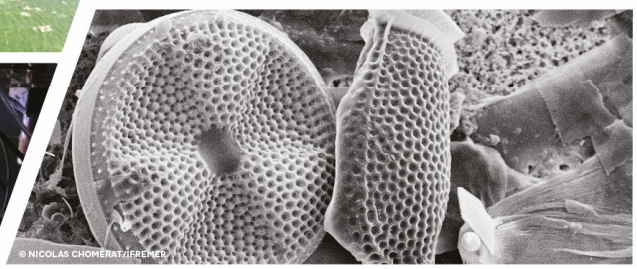
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Biotechnology or adding value to toxic and harmful algae

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Exploitation of the biotechnological potential of microalgae: the AlgaeCeuticals project

P. Madesis [1], N. Labrou [2], L. Cerasino [3,*], N. Salmaso [3], L. Palmieri [3], S. Martens [3], S. Fluch [4], P. F. Ruiz [5], A. M. San Martin [5], J. Mullor [6], E. Bakoula [7], M. Chatzikonstantinou [7]

[1]Institute of Applied Biosciences, CENTRE FOR RESEARCH AND TECHNOLOGY HELLAS - CERTH, Thessaloniki, [2]Department of Biotechnology, Agricultural University of Athens, Athens, Greece, [3]Research and Innovation Centre, Fondazione Edmund Mach, San Michele all'Adige, Italy, [4]ecoduna AG | eparella GmbH, Bruck an der Leitha, Austria, [5]Centro Tecnológico Nacional de la Conserva y Alimentación, Molina de Segura, [6]Bionos Biotech S.L., Valencia, Spain, [7]Fresh Line Company, Koropi, Greece

Abstract: Microalgae and cyanobacteria represent a formidable source of metabolites: some are toxic, but many others have potential beneficial applications and are attracting a lot of interest from different industrial sectors (food, drugs, cosmetics) seeking for innovative, active and “natural” products.

Microalgae biomass represents a rich source for discovery. The potential for algae-based ingredients in the industry relies on the manipulation and targeting of ingredients to fit increasingly niche product specifications. Microalgae are exposed to extreme environment and thus have developed unique mechanism for protection. Furthermore, these organisms produce different metabolites which we need to identify and exploit in a sustainable way for the production of food, drugs and cosmetics.

The AlgaeCeuticals project (Project N. 778263, H2020-MSCA-RISE-2017) will take advantage of the native microalgae and cyanobacteria strains producing high added value products and through the application of novel omics technologies (genomics, metagenomics, transcriptomics, proteomics, enzymomics and metabolomics) as well as algae culture technologies and production of novel products. AlgaeCeuticals will screen and characterize microalgal biodiversity, develop and optimize algae culture systems, develop omics resources for algae and also develop downstream processing strategies and novel products. For this reason and in order to achieve its object, 4 academic and research centers from Greece (Centre for Research and Technology Hellas; Agricultural University of Athens), Italy (Fondazione Edmund Mach) and Spain (Centro Tecnológico Nacional de la Conserva y Alimentación) will collaborate for four years with 3 industrial R&D partners from Greece (Fresh Formula), Spain (Bionos Biotech ND) and Austria (Ecoduna AG). Through this collaboration the academic partners will work closely with the industrial R&D and form a complementary and highly competitive team that will promote transfer of knowledge and excellence to industrial partners. This will strengthen the industrial competitiveness in the field of food and cosmetics in the process of the design, development, testing of the products proposed by the project.

Disclosure of Interest: None Declared